

## WHAT IS CLAIMED IS:

1. An injector system comprising an injector and a syringe, the injector system comprising:
  - a syringe comprising:
    - a body comprising a forward end and a rearward end; and
    - a plunger movably disposed in the body; and
  - an injector comprising:
    - a housing; and
    - a piston movably disposed at least partially within the housing and operable to drive the plunger of the syringe in a forward direction without a connective engagement therebetween to dispense fluid from the forward end of the body during an injection procedure, wherein the piston connectively engages the plunger to retract the plunger within the syringe.
2. The injector system of claim 1 wherein the piston comprises a collet member comprising one or more segment members adapted to deflect in a radial direction to engage the plunger when the piston is retracted.
3. The injector system of claim 1 wherein the piston comprises an elastomeric member adapted to expand in a radial direction to engage the plunger when the piston is retracted.
4. The injector system of claim 1, further comprising:
  - a sleeve member associated with the piston; and
  - one or more plunger gripper members associated with the piston and adapted to be biased by the sleeve member into engagement with the plunger upon retraction of the piston.
5. The injector system of claim 4, further comprising:
  - a collar connected to one end of the piston sleeve, the collar defining an opening through which the piston extends;
  - a plunger cap connected to the collar, the plunger cap defining an interior space and a plurality of slots formed in a side thereof;

a gripper extender disposed on an end of the piston within the interior space of the plunger cap;

a plurality of grippers disposed through the slots and engageable with the gripper extender;  
and

a biasing member in contact with the piston sleeve;

whereby, upon movement of the piston in a rearward direction, the biasing member biases movement of the piston sleeve to substantially prevent movement of the piston sleeve in the rearward direction to cause the gripper extender to push the plurality of grippers through the slots in the plunger cap into engagement with the plunger within the syringe.

6. The injector system of claim 1 wherein the piston is adapted to engage the plunger without regard to the orientation of the plunger with respect to the piston.

7. The injector system of claim 1 wherein the piston is adapted to drive the plunger without regard to the orientation of the plunger with respect to the piston.